EXERCISE ON THE SKEPTICISM OF USING CALCULATOR GRAPHS.

In this exercise you will use your calculator to graph $y = \sin(2\pi x)$ with different window settings. Set your calculator to radian mode with the window settings $y_{\min} = -1,\ y_{\max} = 1,\ x_{\min} = 0,$ $x_{scl} = 0$. The value of $x_{\max}$ will depend on the number of pixels used to fill up the width of your calculator's screen.

Use the following values for the number of pixels, p, for your model of calculator:

Model	TI-81	TI-82, 83	TI-85, 86	TI-89	TI-92
Value of *p*	95	94	126	158	239

For each graph, estimate the period by using only the graph. Include a sketch of the graph too.

a) set $x_{\max} = p + 1$

b) set $x_{\max} = p + 2$

c) set $x_{\max} = p + 3$

d) set $x_{\max} = p - 3$

You might want to try some other values of $x_{\max}$ close to (bit different from) the value of *p*.

Your function $y = \sin(2\pi x)$ never changed. So its period remained fixed. Can you explain why the graphs produced different estimates for the period?

To close the exercise, set $x_{\max} = p$. Can you explain what has happened?